DOCUMENT RESUME

ED 051 166 SP 007 221

AUTHOR	McBath, Patricia P.; And Others
TITLE	Kindergarten Handbook.
INSTITUTION	Delaware State Dept. of Public Instruction, Dover.
PUB DATE	Dec 69
NOTE	68p.
EDRS PRICE	EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS	Art, Audiovisual Instruction, *Curriculum Guides, *Early Childhood Education, *Kindergarten, Language Arts, Mathematics, Music, Physical Education, Sciences, Social Studies

ABSTRACT

GRADES OR AGES: Kindergarten. SUBJECT MATTER: Complete curriculum. ORGANIZATION AND PHYSICAL APPEARANCE: The guide has the following chapters: 1) What It Means To Be a Five-Year Old; 2) Planning the Kindergarten Environment; 3) Suggestions for Particular Content Areas--Language Arts, Mathematics, Science, Social Studies, Art, Music, Physical Education, and Audio-Visual Education; and 4) Sources of Information. The guide is lithographed, illustrated, and staple bound with a soft cover. OBJECTIVES AND ACTIVITIES: No detailed objectives are listed. The kinds of activities recommended are described, but no attempt is made to give detailed instructions. INSTRUCTIONAL MATERIALS: The basic equipment needed is listed. There are bibliographies for language arts and mathematics, and materials for mathematics and art. STUDENT ASSESSMENT: No provision is made for evaluation.

ED051166

AUG 3 1970

Kindergarten Handbook

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

State Department of Public Instruction
Dover Delaware

SP007221

ED051166

Dr. Kenneth C. Madden
State Superintendent

Mr. F. Niel Postlethwait
Deputy Superintendent

Dr. Paul M. Hodgson
Assistant Superintendent
Instructional Services

Mrs. Patricia McBath
Kindergarten Supervisor

Illustrations by Carolyn Brown

December 1969

Published by:
Public Information and Publications Section
State Department of Public Instruction
Dover, Delaware

TABLE OF CONTENTS

WHAT IT MEANS TO BE A FIVE-YEAR-OLD 1
PLANNING THE KINDERGARTEN ENVIRONMENT 9
SUGGESTIONS FOR PARTICULAR CONTENT AREAS 15
LANGUAGE ARTS 18
MATHEMATICS 31
SCIENCE 45
SOCIAL STUDIES 49
ART 52
MUSIC 55
PHYSICAL EDUCATION 57
AUDIO-VISUAL EDUCATION 58
SOURCES OF INFORMATION 63
FOOTNOTES 64

FOREWORD

The 1968-69 school year marked the beginning of state-supported kindergartens in Delaware. An immediate need was expressed by both kindergarten teachers and administrators for program guidelines and suggestions.In order to meet this need, this Kindergarten Handbook has been made available.

The Handbook was developed by Mrs. Patricia P. McBath, Supervisor of Kindergartens. She was assisted by Mr. Robert C. Hawkins, Director of Elementary Education; Mr. William J. McCormick, Supervisor of Elementary Social Studies; Mr. John W. Jackson, Supervisor of Elementary Mathematics; and, Mr. Richard L. Krueger, Supervisor of Audio-Visual Education.

A special acknowledgment should go to the members of the Kindergarten Advisory Council who reviewed the material for the Handbook. The members of the Council during the 1968-69 school year were:

Mr. Martin Caulfield, Elementary Principal, Claymont School District

Mrs. Virginia Dennis, Kindergarten Teacher, Rehoboth School District

Mrs. Patricia Derrickson, Coordinator of Kindergarten Program, Seaford School District

Mrs. Elizabeth Gray, Kindergarten Teacher, Newark School District

Miss Joan Gray, Kindergarten Teacher, Milford School District

Mrs. Ruth Palmer, Coordinator of Kindergartens, Stanton School District

Mrs. Mildred Patterson, Supervisor of Elementary Education, Wilmington Public Schools

Mrs. Mary W. Thompson, Elementary Principal, Alexis I. duPont School District

WHAT IT MEANS TO BE A FIVE-YEAR-OLD

Today, knowledge of growth and development of five-year-old children establishes the foundation for a good kindergarten program. Administrators and teachers recognize the fact that five-year-olds should not sit for lengthy periods of instruction. These adults realize that to be a five-year-old means . . .

1. To be active.

Activity for the young child is a means to full body development and is absolutely necessary to growth and health. Health, of course definitely includes mental health. Restraining the normal tendency to be active causes fatigue, frustration, and withdrawal, depending upon the disposition of the child.

Activity for the young child is an important means to learning. "We learn to do by doing." The young child is quite dependent upon what he can experience first hand. He needs to see, to feel, and to react with his muscles. He likes to run and jump and shout.

At five, his large muscles are better developed than his small muscles. He can learn to skip, hop, and climb. The five-year-old has tremendous drive for physical activity which includes running and jumping, tumbling and rolling, pushing and pulling, tugging and dragging, lifting and carrying.

2. To be easily fatigued.

The child of five is normally full of energy and drive, but he cannot sustain activity beyond a certain point. He does not have the endurance of an adult for "repeat" movements such as are required in just walking along. He is inactive for only short periods of time, which indicates the need for frequent changes in activities.

He needs opportunity, therefore, to relax often. To require children to follow teacher direction continuously throughout the school day may cause serious strain for some of them.

The five-year-old needs planned regular rest times at school in addition to 11 to 12 hours of good sleep at night.

3. To need nourishing food.

Five-year-olds are growing and need lots of food, though there are wide individual differences. Many children get over-hungry and show fatigue and irritability if needs are not met. A supplementary mid-morning or midafternoon lunch of graham crackers, milk, or fruit juice is usually desirable.

4. To have incomplete muscle control.

A five-year-old's posture and locomotion are generally good, but his manual skills, though developing rapidly, are relatively immature. He uses the finer muscles in the eyes and fingers v the degree of control which his own maturity makes possibl he may become tired and strained if adults set standar ciseness or require prolonged effort.

The five-year-old enjoys games requiring considerable body movement. He may do one motor skill better than another. He may hesitate in some activity involving a motor skill because of muscular immaturity.

5. To be sociable, but still self-centered.

Children of five are generally responsive to adults and happy in their company. They have a good attitude toward adult guidance under normal conditions. They really desire to be with children but have a limited tendency to cooperate. Their spontaneous, undirected groups are small in numbers and limited in duration, depending somewhat upon strength of child leadership. Genuine leadership from the teacher, often indirect, is needed when "fives" live together as a large group at school.

Kindergarteners sincerely seek the companionship of other children. They are anxious for individual or group approval from the children. They play and work together best in groups of two to six children. However, they require frequent or constant approval from adults.

The five-year-old needs adult help (assistance and direction) in learning to share materials, in taking turns, in assuming responsibility for the care of personal belongings, and in listening purposefully without interruption.

6. To seek acceptance from children his own age.

The child of five has a strong need for a sense of "belongingness" in a group where he finds himself more or less like other children, but where he is able to express himself and yet be accepted by the children of his own age. He likes to do things with other children, sometimes in his own way. The five-year-old searches for trust and acceptance. He responds to praise and encouragement.

7. To need affection.

The five-year-old definitely tries to please. He responds to affection and genuine praise and encouragement. He can be secure, in spite of recognized mistakes, if he knows he is really loved.

8. To be relatively poised.

Mr. Five can wait and plan, within limits. He likes to finish what he is doing and should be so encouraged whenever possible; but he can return to an interrupted project with interest.

He is still subject to fears, angers, and jealousy, depending upon his experience, and these emotions may be inadequately controlled. Adults must recognize these normal emotions and accept their expression. At the same time they must try to change the feelings, so far as is desirable.

The school routine and consistent direction aid the five-year-old in gaining his successes and failures. Growth and emotional stability enable him to transfer this growth into other situations.

9. To be inexperienced with many things.

The young child is by nature busy investigating, both by direct methods and by questions. He is eagerly inquisitive and interested to find out about many things, both natural and social.

10. To have limited mental powers.

Attention, concentration, persistence, and reason depend upon maturity and past experience in mental activity. The fives learn by doing, experiencing, observing, imitating, examining, investigating, exploring, and questioning. They are eager to learn but not ready for formal abstract work.

11. To be free with language.

Most children of five have passed from "baby-talk" but are still struggling to master vocabulary and language usage. They are sensitive to the speech patterns given them and, through much practice, are striving to make these their own. They can listen and follow verbal directions,if these are short and simple.

12. To be creative.

The young child is eager to make everything respond to his manipulations and desires. He will "create" with his voice, with a drumstick, with clay, sand, and soapsuds, and with his whole body, depending upon circumstances. He likes to create with paint, crayons, blocks, tools, and pieces of wood. He pretends he is a doctor, cowboy, fireman, pilot, teacher, nurse.

13. To be realistic and concrete.

The five-year old is interested in the "here and now" and has limited concepts of "then and there."His imagination has a "realistic" quality; and he expresses, through acting, painting, or modeling, those things he has experienced.

14. To be a person.

The child of five shows a well-defined personality and displays clearly his own growth pattern, all more or less predictive of the future. Individual differences are definitely apparent in a young child's early responses at school. Each child is very much a person and must be treated as such.

15. To be inquisitive.

The young child is interested, alert, and inquisitive about nature and all that goes on around him.

The abilities of individual kindergarteners will vary, but degrees of achievement will depend upon the level and rate of the child's maturation in relationship to his experiences. School experiences need to be directed in recognition of these variations. A recent book on the language arts characterizes these children as: "Delightful Fives -- Their World of Wonders Ever New" and lists 11 areas of maturation which must be considered during the kindergarten year:

1. At this age children are at a leveling-off stage of rapid initial physical growth and development. To paraphrase a line from 'Pippa Passes' by Robert Browning, all's right with his world for the five.
2. Much of the time they are responsive to reason. Tears come easily but are short-lived.
3. They become increasingly free of the dependence associated with early childhood.
4. They begin to play well with others -- but they sometimes like to play by themselves.
5. They are bursting with energy have a well-developed sense of adventure, and are 'action-packed.' Rarely do they walk when they can run, and seldom do they stay

in one position very long. They need play equipment which gives them an opportunity for activity with a purpose. They need a balance of strenuous activity and quiet activity. They need freedom to move from one activity to another. Their attention span is increasing, but should not be over-estimated. Both interests and attention should be given the chance to develop naturally.

6. The fives usually have ideas on how to carry out the activity they choose -- finger-painting, let us say; they try to create and seek to achieve a feeling of accomplishment.
7. They love dramatic play, rhythms and songs, stories and poems, art activities, play, blocks, animals -- anything and everything it seems.
8. They are beginning to have improved control of their bodies, using them skillfully and with purpose. Large muscle development is still relatively superior to small co-ordinations, however. The hand and eye do not yet work in complete co-ordination.
9. While the fives occasionally need assistance with dressing, toileting, and bathing, they can usually handle these tasks independently; they sometimes seek help they do not need in order to gain a bit of extra attention. They feed themselves well, although they often prefer to eat with their fingers rather than with spoons and forks. Some fives are beginning to use table knives, too.

10. They are eager to do small jobs at home and school -- running errands, for example.
11. In the realm of communications, they are beginning to handle language well; they talk freely, express ideas,and carry on conversations. Speech is beginning to be patterned somewhat more nearly in an adult manner. Pronunciation is generally clear. Five-year-olds ask innumerable questions, like to be read to, evaluate tasks with phrases like, 'This is no fun,' or 'This is easy,' define simple words, have difficulty in distinguishing between fantasy and reality, and are interested in using large and new words while seeking to capture their meaning.

The school-age child, as distinct from the pre-school youngster, usually enters our first grades as he joins the company of the 'lively sixes.' [1]

PLANNING THE KINDERGARTEN ENVIRONMENT

When young children are brought together in groups it is most important that they have a supportive, rich, challenging environment. At this stage, one of the most important functions of the school is to help the child to discover himself as an individual. Implications here are that the program will be organized so that much individual or small group activity will take place, and that many opportunities will be provided for the teacher to give a child individual attention.

It is important to remember that an environment should be provided in which the intellectual development of children will be fostered. Young children at various stages of development employ the essential elements of the process of concept formation: fact gathering, associating ideas, classifying things in the environment, making generalizations, and attempting to discover cause and effect relationships.[2]

Creativity in planning and in the use of various resources, human as well as material, a flexibility in school organization and scheduling, and a cooperative effort on the part of all concerned will be essential in developing the kind of environment for early childhood education which will assure exciting and fruitful learning. A most important aspect of learning is curiosity. As we alter our current programs and develop new ones it will be essential that an environment be created in which children derive feelings of mastery and competence from experimental efforts to satisfy curiosity.[3]

The size of kindergarten classrooms and the number of children placed therein are key factors in the kindergarten environment. Kindergarten teachers who have faced the problem of overcrowding have noted the high frequency of certain practices that seem to accompany crowding:

REGIMENTATION is the most convenient way for a teacher to manage a large kindergarten class. When regimentation must become the method of classroom control, the teacher has little

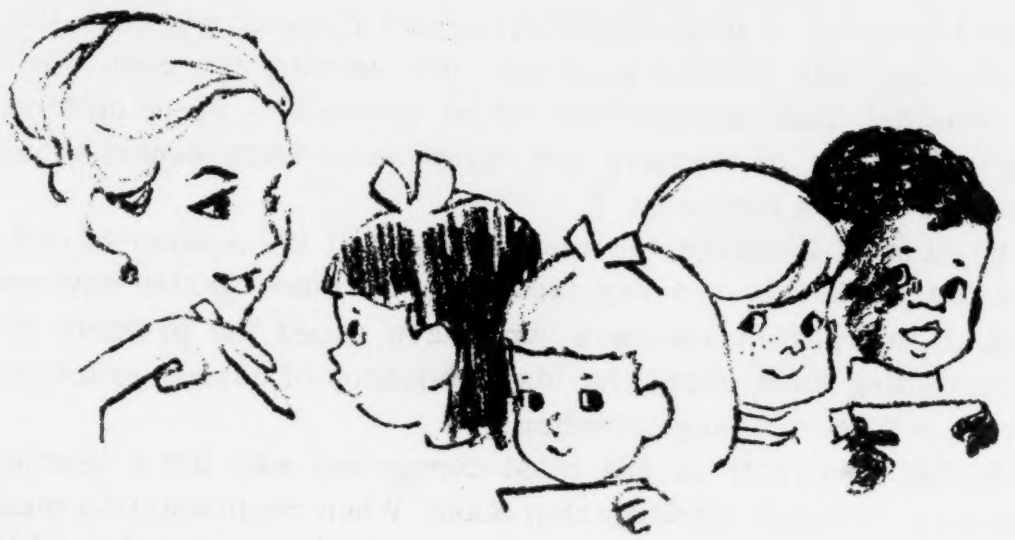
opportunity to help individual children develop self-responsibility, self-reliance, and initiative. She has little opportunity to observe and guide individual children through their problems.

IMPERSONAL RELATIONS between child and teacher tend to become the mode. It is extremely difficult for the teacher to be sensitive to all children in her group if she is contacting 100 children per day. She is apt to lose sight of the trees and guard the forest against major catastrophies.

AUTOCRATIC DISCIPLINE often becomes a major control element in the oversized classroom because large groups find it hard to live together successfully. Self-discipline learned through experience, experimentation, and solving one's problems has slight opportunity to thrive. The overcrowded classroom makes autocratic control tempting.

A THIN PROGRAM usually results from lack of time and space. Excursions, experiments, and actual participation in activities are very limited in the crowded classroom.

GETTING ACQUAINTED with 100 or more families is difficult for the teacher. Parent-teacher conferences become difficult to schedule. Home visits by the teacher become too much of a good thing. Parent visits to the classroom may add to the crowding. [4]



PLANNING THE KINDERGARTEN ENVIRONMENT

Basic Equipment for a Suitable Environment

A kindergarten well equipped inside and outside is imperative. There are many materials available today of good quality. The lists of suggestions which follow by no means should be considered as complete.

The area out-of-doors, hopefully, with a door that opens directly on an outside area set aside only for the kindergarten, is very important. Here there should be equipment for developing large muscles such as appropriate climbing towers, things to crawl through and over, wheel toys, large hollow blocks and space to do the things usually done inside. There should be an outside storage shed for most of this equipment.

BASIC EQUIPMENT LIST FOR A KINDERGARTEN CLASSROOM

1 School Set of Hardwood "Unit" Blocks

1 School Set of Hardwood "Hollow" Blocks
Adequate Shelving for Blocks and other Equipment

1 Transportation Fleet of 4 Large Wooden Trucks appropriate for riding

2 Adjustable Double Painting Easels

1 Book Display Shelf - Storybooks

1 Climbing Equipment (Inside)

1 Set of Housekeeping Equipment

Wooden Stove	Tea Table
Wooden Refrigerator	Tea Set
Wooden Sink	Pots and Pans

1 Balance Beam (Walking Board)

Dolls, Equipment and Doll Clothes

Metal Mirror (Full Length)

Finger Paints - Finger Paint Paper

Tempera Paint - Large Newsprint

Chiseled Long Handled Paint Brushes

Clay

Lotto Games (Table Toys)

12 Wooden Puzzles

1 Puzzle Rack

Small Round Scissors

Large Crayons - Large Manila Paper

Colored Construction Paper

SUPPLEMENTAL BASIC EQUIPMENT

Vari-Play Triangle Set

Aquarium and Animals

Wheel Toys (Tricycles, etc.)

Water and Sand Table - Sand and Water Toys

2 Telephones (Wooden)

Wooden Cash Register

Large Magnifier

Rhythm Records - Sturdy Record Player

Wooden People and Animals for Block Play

Dominoes (Large Picture or Color)

Iron and Ironing Board (Wooden)

Small Cars and Trucks for Block Play

Dishes for Housekeeping Corner

Dish Washing Equipment for Housekeeping Corner

Workbench, Tool Cabinet and Tools

Rocking Rowboat (Reverses to make steps)

Riding Train

Floor Mats or Carpeting

Kindergarten Out-of-Door Play Area Equipment.

SUGGESTIONS FOR PARTICULAR CONTENT AREAS

As children mature and develop through the early school years they will be challenged by more advanced types of experiences and learning. The content orientation of the program should be tailored to children's needs and abilities in utilizing it. This indicates more clearly a need to reevaluate the kindergarten program in the content areas. We must identify the intellectual learnings that are possible through child-like activities without having to go to formal lesson situations and work-book type of experiences. In a good program for all young children it is important to gear the teaching styles to the individual and what is known about his style of learning. As children talk, play, dramatize, ask questions and manipulate materials, they advance in many phases of learning. All content areas are woven together into a meaningful, life-like situation as children learn. As pointed out by Neith Headley, the philosophy and teaching of John Dewey is reflected in one way or another in almost every phase of programs for early childhood education, indicating firm bases on which programs should be built: (1) only life educates, (2) education should involve both the hands and the minds of children, (3) the aim of education is to teach children HOW - not WHAT to think, and, (4) education involves a continuous reconstruction of living experiences that go beyond the four walls of the classroom.[5]

Basic to all learning during the early childhood phase, particularly during the beginning years, is the need for each child to develop his own identity -- who he is within his environment. Not only must children be helped to know themselves, but it is of equal importance that the concept they have of themselves be a positive one. They need to feel that they are important, liked, and have a generally good feeling about being themselves. If children are to develop this positive feeling about themselves, they must have experiences of being accepted, wanted and loved. This

is particularly important to keep in mind as pressures are brought to bear on schools to put more content in the curriculum earlier. Depending upon the kinds of experiences an individual has, he may develop confidence that he can learn or he may conclude, perhaps irrevocably, that he cannot. He may come to see himself as valued and needed by an understanding society, or as friendless and inadequate in an incomprehensible or hostile world. Challenging experiences are considered important and necessary, but they must not be so frustrating as to destroy a positive self-concept.[6]

In discussing the importance of continuity in early childhood education it should be pointed out that the developmental approach in child training assumes that the child should live as fully as possible at each stage in his growth; that artificial attempts to hasten the growth process through undue pressure may distort the child's development, even make him unfit for his future role as an adult. In some places, because children have had a head start, they are being pressured to read earlier, to do mathematics and science work that is inappropriate. In many programs there is misinterpretation of Jerome Bruner's ideas, and children are parroting the names of planets without understanding what it is they are saying, doing much rote learning that is meaningless.[7]

SUGGESTIONS FOR PARTICULAR CONTENT AREAS

Robison and Spodek look upon kindergarten as a place where children are happy, but it must also be a place where children are helped to deal with significant ideas about their physical and social world. The child also needs to be helped to grapple with these ideas on his own terms. The kindergarten year should provide learning, not "prelearning" experience, thus becoming the foundation of all his later learning. In further discussion they indicate existing kindergarten practices are sometimes defended as a protection of the kindergarten child's right to be five. However, what a child is at five is determined to no small extent by his cultural environment. Childhood experiences are different in each society and at different times in history. Schools must deal with the child as he is today, helping to prepare him to cope with the world as it is and as it seems likely to be.[8]

LANGUAGE ARTS

Language Growth

Language opportunities must be planned for a variety of outcomes and values. Important language opportunities to be programmed include:

1. Conversation
2. Perceiving and following instructions
3. Formulating questions and inquiries
4. Seeking information
5. Expressing feelings and ideas
6. Sharing information
7. Listening to stories, poems, books
8. Group discussion
9. Creative dramatics
10. Dramatic play
11. Vocabulary development [9]

The value of a young child verbally expressing himself and listening to good stories cannot be emphasized too much. These skills lay the foundation for two additional communication skills: reading and writing. The spoken language is the basis of language development and the responsibility of the kindergarten.

When children are provided with well written attractively illustrated books they cannot help but grow in their language development. The example of seeing pages turned from right-to-left, enjoying literature, and hearing different patterns of speech helps a great deal toward developing positive attitudes toward reading. Poems should be used, but without the drill of memorizing. Every kindergarten room should have a library table or center in the room with books and language materials attractively displayed. This would be in addition to the use of the school library. This center should be located away from the more noisy activities.

A language experience approach to communication would be highly recommended. Labels on objects in the room, names on cubbyholes, dictated stories about experiences they have had as a group and as individuals would all be part of this approach.

The question of whether to plan formal reading instruction for five-year-olds is frequently asked. Early childhood educators have never said that five-year-olds cannot read. What the real question seems to be is what exactly are the priorities in a kindergarten program? Is this the most profitable way to spend the time given to these young children? Some individual children may be ready to go into reading. If this is to be done on an individual basis, the language experience approach would best meet their needs. Of course, time would not be taken away from socialization, large and small muscle development, and creative activities during the kindergarten day for these few individuals. "A child who is provided a broad range of experiences with opportunities to explore, to question, to create, to manipulate, to express ideas in many forms and to have assistance in clarifying ideas and concepts is very likely to be enthusiastic about learning to read and about continually refining all the other skills of communication he has acquired." [10]

Writing as a drill skill should not be introduced in the kindergarten. However, children should have opportunities:

- To develop muscle and eye-hand coordination.
- To appreciate the left-to-right sequence in words.
- To appreciate the fact that letters are placed on a horizontal baseline.
- To be alerted to the fact that there are several kinds of letter symbols which may be used in writing.
- To see how manuscript letters are formed.

10

PRE-READING AND READING SITUATIONS

A reading readiness program should provide situations that among other things expose the pupils to printed symbols in order to give them opportunities for relating the symbols to their experiences. These situations will stimulate interest, arouse curiosity, and will develop a recognition of the purpose of the printed word.

Kindergarten	First Year Beyond the Kindergarten
I. To develop an interest in books.	I. To develop a higher degree of interest in books and in reading. To expose children to situations which will create a desire to read.
II. Situations	II. Situations
A. Reading 1. Teacher reads to class stories, poems informational material 2. Children "read stories" from picture, story, scrapbooks.	A. Reading 1. Teacher reads to class stories, poems, informational material. 2. Children "read stories" from picture, story, scrapbooks.
B. Bulletin Board (display) 1. Items of children's interest 2. Things brought in to talk about 3. Room duties pictures-helpers assigned. 4. Letters received.	B. Bulletin Board 1. Items of children's interest. 2. Things brought in to talk about. 3. Room duties written-helpers assigned. 4. Letters received.

5. Seasonal cards received.	5. Names and titles on children's work.
6. Birthday child's name, etc.	6. Poems
	7. Daily plans
C. Labels	C. Labels
1. Picture labels on trays or boxes easily accessible to children and containing materials for their use.	1. Word labels on articles (should have functional and instructional value) not on chairs, desks, piano, etc. - paste jars, scissors, container, materials for application to work, paper, etc.)
2. Children's names on folders, boxes, cubbies, etc. containing their work.	2. Sentence labels - on easel - "Come and Paint" or "What Can You Paint" or library table - "Puzzles Are Fun."
	3. Children's names on cubbies, boxes, folders, over hooks in cloakroom.
D. Room calendar	D. Room calendar (to create interest in reading numbers - calendar to be made by teacher and filled in by children)

KINDERGARTEN HANDBOOK

1. Days of month (large numbers to be crossed off)
2. Weather notations (color squares)
3. Birthdays
4. Holidays

E. Diaries-kept on blackboard or paper
   1. Seasonal observations
   2. Callers in classroom- children, adults, pets, etc.
   3. Progress of science experiments

F. Group stories from experience relived orally - occasionally printed and read to the children by the teacher.

G. Letters - dictated to teacher when need arises
   1. Thank you letters
   2. Invitations

1. Days of month

2. Weather notations

3. Birthdays
4. Holidays

E. Room news - oral - later transferred to blackboard or chart.
   1. Weather observations

   2. New additions to classroom pictures, plants

   3. New pupils

   4. News about family, neighborhood

F. Diaries - kept on board or charts
   1. Seasonal observations
   2. Callers in classroom, pets, children, adults, etc.
   3. Progress of science experiments

G. Group stories from experience re-lived orally and printed on charts by teacher as children watch.

3. Permission letters
4. Letters to sick classmates

H. Games, rhymes, and activities to develop auditory discrimination.

I. Games and activities to develop visual discrimination.

Children exposed to reading techniques as teacher reads story back to children.

H. Letters - dictated to teacher when need arises.

1. Thank you letters
2. Invitations
3. Permission letters
4. Letters to sick classmates

I. Games, rhymes, and activities to develop auditory discrimination.

J. Games and activities to develop visual discrimination.

K. Individual name, color, and number cards - made by teacher, one for each child for his reference.

L. Group color and number charts.

CHILDREN'S BOOKS

The following book lists by no means are complete. They are only suggestions toward a good kindergarten library. Some are library priced and others are inexpensive paperback editions.

Anglund, Joan Walsh: A Friend is Someone Who Likes You, Harcourt, 1958.

Ardizzone, Edward: Little Tim and the Brave Sea Captain, Walck, 1955.

d'Aulaire, Ingri and Edgar: Animals Everywhere, Doubleday, 1954.

Bemelmans,Ludwig: Madeline in London, Viking, 1961.

Beskow, Elsa: Pelle's New Suit, Harper, 1929.

Borg, Inga: Parrak -- The White Reindeer, Warne, 1959.

Bright, Robert: Georgie and the Robbers, Doubleday, 1963.

Brooke, L. Leslie: Johnny Crow's Garden, Warne, 1903.

Brown, Marcia: Felice, Scribner's, 1958.

Brown, Margaret Wise: The Country Noisy Book, Harper, 1940.

_____: Two Little Trains, W. R. Scott, 1949.

_____: Wheel on the Chimney, Lippincott, 1954.

Brown, Palmer: Cheerful, Harper, 1957.

DeBrunhoff, Jean: Babar and His Children, Random, 1942.

_____: Babar and Zephir, Random, 1942.

_____: Babar the King, Random, 1935.

_____: The Story of Babar, Random, 1937.

Buckley, Helen: Where Did Josie Go? Lothrop, 1963.

Burton, Virginia Lee: The Little House, Houghton, 1942.

_____: Mike Mulligan and His Steam Shovel, Houghton, 1939.

Carroll, Ruth: What Whiskers Did, Walck, 1965.

Chonz, Selina: A Bell for Ursli, Walck, 1950.

Clark, Ann Nolan: Tia Maria's Garden, Viking, 1963.
Cohen, Miriam: Will I Have A Friend?, Macmillan, 1967.
Cole, William: Frances Face-Maker, World, 1963.
Daugherty, James: Andy and the Lion, Viking, 1938.
Davis, Alice V.: Timothy Turtle, Harcourt, 1940.
De Regniers, Beatrice Schenk: May I Bring a Friend:, Atheneum, 1964.
_____: The Shadow Book, Harcourt, 1960.
Dubois, William Pence: Lion, Viking, 1956.
Economakis, Olga: Oasis of the Stars, Coward, 1965.
Eichenberg, Fritz: Ape in a Cape, Harcourt, 1955.
Ets, Marie Hall: Just Me, Viking, 1965.
Fatio, Louise: The Happy Lion, McGraw, 1954.
Fenner, Carol: Tigers in the Cellar, Harcourt, 1963.
Flack, Marjorie: Angus and the Cat, Doubleday, 1931.
_____: The Story About Ping, Viking, 1933.
Francoise: The Big Rain, Scribner's, 1961.
Freeman, Don: A Rainbow of My Own, Viking, 1966.
Gag, Wanda: A B C Bunny, Coward, 1933.
_____: Millions of Cats, Coward, 1938.
Garelick, May: Sounds of a Summer Night, W. R. Scott, 1963.
Goudey, Alice E.: The Day We Saw the Sun Come Up, Scribner's, 1961.
Gramatky, Hardie: Little Toot, Putnam, 1939.
Hader, Berta and Elmer: The Big Snow, Macmillan, 1948.
Handforth, Thomas: Mei Li, Doubleday, 1938.
Hoban, Russell: Bread and Jam for Frances, Harper, 1964.
Ipcar, Dahlov: The Song of the Day Birds and the Night Birds, Doubleday, 1967.
Kahl, Virginia: The Duchess Bakes a Cake, Scribner's.
Keats, Ezra Jack: Jennie's Hat, Harper, 1966.
_____: Peter's Chair, Harper, 1967.
_____: The Snowy Day, Viking, 1962.
Kennedy, Mary: Come and See Me, Harper, 1966.
Kingman, Lee: Peter's Long Walk, Doubleday, 1953.
Leaf, Munro: The Story of Ferdinand, Viking, 1936.

Lefevre, Felicite: The Cock, the Mouse and the Little Red Hen, Macrae, 1945.

Leodhas, Sorche Nic: Always Room for One More, Holt, 1965.

Lindgren, Astrid: The Tomten, Coward, 1961.

Lionni, Leo: Inch by Inch, Obolensky, 1961.

_____: Tico and the Golden Wings, Pantheon, 1964.

Lipkind, William and Nicolas Mordvinoff: Finders Keepers, Harcourt, 1951.

MacDonald, Golden: The Little Island, Doubleday, 1946.

Martin, Patricia Miles: The Rice Bowl Pet, Crowell, 1962.

Matsuno, Masako: A Pair of Red Clogs, World, 1960.

McCloskey, Robert: Lentil, Viking, 1940.

_____: Make Way for Ducklings, Viking, 1941.

_____: One Morning in Maine, Viking, 1952.

_____: Time of Wonder, Viking, 1957.

McGinley, Phyllis: All Around the Town, Lippincott, 1948.

Miles, Betty: A Day of Winter, Knopf, 1961.

Munario, Bruno: A B C, World, 1960.

Napoli: Adventure at Mont-Saint Michel, McGraw, 1966.

Ness, Evaline: Josefina February, Scribner's, 1963.

Newberry, Clare Turlay: Widget, Harper, 1958.

Nodset, Joan L. : Who Took the Farmer's Hat?, Harper, 1963.

Ormondroyd, Edward: Theodore, Parnassus, 1966.

Petersham, Maud and Miska: The Circus Baby, Macmillan, 1950.

Piatti, Celestino: The Happy Owls, Atheneum, 1965.

Politi, Leo: Little Leo, Scribner's, 1951.

_____: Song of the Swallows, Scribner's, 1949.

Potter, Beatrix: The Tale of Peter Rabbit, Warne, 1903.

Rey, H. A. : Curious George, Houghton, 1941.

Sauer, Julia L.: Mike's House, Viking, 1954.

Scheer, Julian: Rain Makes Applesauce, Holiday, 1964.

Schlein, Miriam: Billy the Littlest One, Whitman, 1966.

Schneider, Hermand and Nina: Follow the Sunset, Doubleday, 1952.

Schweitzer, Byrd Baylor: Amigo, Macmillan, 1963.

Sendak, Maurice: Where the Wild Things Are, Harper, 1963.

Seuss, Dr.: Mulberry Street, and to Think That I Saw It On, Vanguard, 1937.

Slobodkin, Louis: The Late Cuckoo, Vanguard, 1962.

Slobodkina, Esphyr: Caps for Sale, W. R. Scott, 1947.

Swift, Hildegarde H.: The Little Red Lighthouse and the Great Gray Bridge, Harcourt, 1942.

Tresselt, Alvin: Autumn Harvest, Lothrop, 1951.

_____: The Frog in the Well, Lothrop, 1958.

_____: Hide and Seek Fog, Lothrop, 1965.

Tudor, Tasha: A Is for Annabelle, Walck, 1954.

Udry, Janice May: A Tree Is Nice, Harper, 1956.

Ungerer, Tomi: Crictor, Harper, 1958.

Waber, Bernard: The House on East 88th Street, Houghton, 1962.

Yashima, Taro: Crow Boy, Viking, 1955.

_____: Umbrella, Viking, 1958.

Zion, Gene: The Summer Snowman, Harper, 1955.

Zolotow, Charlotte: Flocks of Birds, Abelard, 1965.

_____: The Storm Book, Harper, 1952. [13]

INEXPENSIVE CHILDRENS' BOOKS

Bemelmans, Ludwig: Madeline, Scholastic - 60¢
Bemelmans, Ludwig: Madeline and The Bad Hat, Scholastic, 75¢
Bemelmans, Ludwig: Madeline's Rescue, Scholastic - 60¢
Blair, Susan: The Three Billy Goats Gruff, Scholastic 1 35¢
Brown, Margaret Wise: Color Kittens, Golden - 29¢
Brown, Margaret Wise: The Golden Bunny and 17 Other Stories, Golden - $1.00
Brown, Margaret Wise: Golden Egg Book, Golden - $1.00
Brown, Margaret Wise: Home For a Bunny, Golden - $1.00 Little Golden - 29¢
Carroll, Ruth: What Whiskers Did, Scholastic 50¢
Cassidy, Clara: We Like Kindergarten, Golden - $1.29
Charlip, Remy: Fortunately, Scholastic - 50¢
Daugherty, James: Andy and the Lion, Scholastic - 45¢
Dennis, Wesley: Flip and the Morning, Viking, Seafarer - 65¢
Duvoisin, Roger: Petunia's Christmas, Scholastic - 60¢
Ets, Marie Hall: In the Forest - 50¢
Ets, Marie Hall: Just Me, Scholastic - 45¢
Ets, Marie Hall: Play With Me, Viking, Seafarer - 75¢
Freeman, Don: Dandelion, Viking, Seafarer - 65¢
Friskey, Margaret: Chicken Little County-To-Ten, Grosset - $1.00
Golden Shape Books

The Apple Book
The Baby Animal Book
The Ball Book
The Bear Book
The Cat Book
The Cowboy Book
The Dog Book
The Elephant Book
The Boat Book
The Bug Book
The Bunny Book
The Car Book
The Sand Pail Book
The Smiley Lion Book
The Sign Book
The Squirrel Book

The Farm Book
The Fish Book
The Fox Book
The Hat Book
The Humpty Dumpty Book
My House
The Parrot Book
The Sunshine Book
The Tiger Book
The Toy Book
Trucks
The Turtle Book
The Zoo Book

Hoban, Lillian and Russell: Bread and Jam for Frances, Scholastic - 50¢

Hoban, Russell: Nothing To Do, Scholastic - 45¢

Johnson, Crockett: Harold and the Purple Crayon, Scholastic - 35¢

Keats, Ezra Jack: Whistle for Willie, Scholastic - 60¢

Krasilovsky, Phyllis: The Man Who didn't Wash His Dishes, Scholastic - 35¢

Krauss, Ruth: Bears, Scholastic - 45¢

Leaf, Munro: Wee Gillis, Viking, Seafarer - 65¢

Masha. Three Little Kittens, Golden - $1.00 Little Golden Book - 29¢

Merriam, Eve: Do You Want to See Something? Scholastic - 35¢

Miller, J. P.: Nursery Rhymes, Golden - $1.00

Moore, Lilian: My Big Golden Counting Book, Golden - $1.00

McCloskey, Robert: Blueberries for Sal, Viking Seafarer - 65¢

Parker, Bertha Morris: The Wonders of the Seasons, Golden $1.00

Piper, Watty: The Little Engine That Could, Platt - $1.50

Potter, Beatrix: The Tailor of Gloucester, Warne - $1.50

Potter, Beatrix: The Tale of Benjamin Bunny, Warne - $1.50

Potter, Beatrix: The Tale of Peter Rabbit, Warne - $1.50

Raskin, Ellen: Nothing Ever Happens on My Block, Scholastic - 45¢

Rey, H. A.: Anybody at Home, Houghton - $1.00

Robinson, Tom: Buttons, Viking, Seafarer - 65¢
Sage, Michael: Dippy Do's and Don'ts, Viking - $1.19
Selsam, Millicent E.: All Kinds of Babies, Scholastic - 50¢
Spilka, Arnold: Little Birds Don't Cry, Viking $1.00
Stevens, Carla: Rabbit and Skunk and Spooks, Scholastic - 45¢
Udry, Janice May: What Mary Jo Shared, Scholastic - 45¢
Ungerer, Tomi: Crictor, Scholastic - 45¢
Waber, Bernard: Cheese, Houghton - $1.50
Ward, Lynd: The Biggest Bear, Golden - $1.00
Wilkin, Eloise: Birds - $1.00
Williams, Garth: Big Golden Animal ABC, Golden - $1.00
Wilkin, Ester: Play With Me, Golden $1.00
Wondriska, William: Which Way to the Zoo, Holt, - $1.50
Zion, Gene: No Roses for Harry, Scholastic - 50¢ 14

SUGGESTIONS FOR PARTICULAR CONTENT AREAS

MATHEMATICS

The mathematical ideas that should be a part of the kindergarten program are best presented in an informal intuitive way. Emphasis should be placed on pupil discovery (guided) through experiences with concrete objects.

The concepts of set and number should lead to the ability of the children to "conserve number" regardless of the arrangement of the set of objects.

The use of pencil and paper activities is not endorsed until late in the program when work on number begins. Pre-number ideas are best presented using concrete materials. The more materials the children are permitted and encouraged to handle themselves, the better. There should be manipulative materials and devices for the development of both small muscle and large muscle coordination and control.

TOPICAL OUTLINE AND VOCABULARY OF THE KINDERGARTEN MATHEMATICS PROGRAM

1. Comparison of three dimensional objects by shape.
   - a. alike
   - b. cube (a special kind of box)
   - c. cylinder (can)
   - d. different
   - e. rectangular solid (box)
   - f. round
   - g. same
   - h. shape
   - i. sphere (ball)
2. Comparison of three dimensional objects by size.
   - a. as big as
     - big
     - bigger
     - bigger than
     - biggest
   - b. as large as
     - large
     - larger than
     - largest
   - c. narrow
   - d. same size as
   - e. as small as
     - small
     - smaller

smaller than
smallest

f. thick
g. wide

3. Comparison of three dimensional objects by positional realtionship.

a. above
b. after
c. around
d. before
e. behind
f. below
g. beside
h. between
i. center
j. close
closer
closest
k. down
l. first
m. in
n. last
o. left
p. middle
q. near
nearer
nearest
r. next
s. on
t. order
u. out
v. over
w. position
x. third
y. under
z. up

4. Comparison of parts of 3-D objects.

a. bottom
b. corner
c. edge
d. inside
e. outside
f. part
g. side
h. top

5. Comparison of 2-D objects by shape.

a. alike
b. circle
c. different
d. ellipse (oval)
e. rectangle
f. round
g. same
h. shape
i. square
j. triangle

6. Comparison of 2-D objects by size.
   See #2
7. Comparison of 2-D objects by positional relationships.
   See #3
8. Comparison of parts of 2-D objects.
   a. center
   b. corner
   c. inside
   d. outside
   e. part
   f. region
   g. side
9. Comparative terms used in discussing weight.
   a. balance scale
   b. as heavy as
      heavy
      heavier
      heavier than
      heaviest
   c. as light as
      light
      lighter
      lighter than
      lightest
   d. weight
10. Comparative terms used in discussing height.
   a. height
   b. as high as
      high
      higher
      higher than
      highest
   c. as low as
      low
      lower
      lower than
      lowest
   d. as short as
      short
      shorter
      shorter than
      shortest
   e. as tall as
      tall
      taller
      taller than
      tallest
11. Comparative terms used in discussing temperature.
   a. colder
   b. colder
   c. hotter
   d. temperature
   e. thermometer
   f. warmer

12. Terms used in discussing time.
    a. afternoon
    b. begin
    c. clock
    d. morning
    e. night
    f. old

13. Set - What is a set?
    a. collection
    b. member or element
    c. set

14. Equivalent Sets
    a. as many as
    b. each
    c. enough
    d. equivalent
    e. fewer than
    f. greater than
    g. less than

15. Equal Sets
    a. equal sets
    b. same members as

16. Ordering Sets
    b. after
    c. before
    d. beside
    e. between
    f. fewest
    g. first
    h. last
    i. least

17. Union of Sets

a. greater than
b. join
c. larger than
d. union

18. Formation of Subsets

a. remainder set
b. remove
c. subset

19. The Empty Set

a. empty
b. empty set
c. nothing
d. zero

20. Assigning No. Names to Sets (0-9)

a. eight
b. equal to
c. five
d. four
e. great
greater
greater than
greatest
f. nine
g. number
h. number name
i. number of things in a set
j. one
k. one less
l. one more
m. pattern
n. seven
o. six
p. three
q. two
r. zero

21. Association of the number names (numerals) with the corresponding sets.

a. See #20
b. cardinal number
c. sentence

22. Learning to write the numerals (9-0)

0, 1, 2, 3, 4, 5, 6, 7, 8, 9,

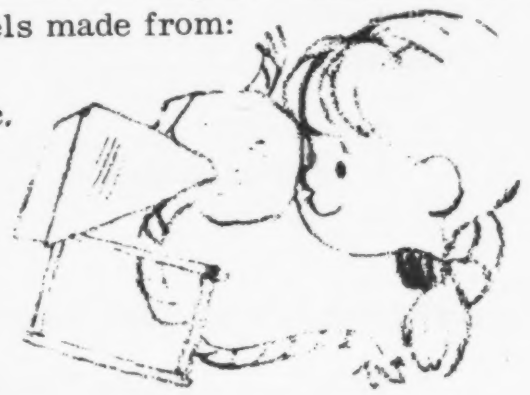
23. Money (counting 0-9 coins)

a. cent
b. coin
c. cost
d. dime
e. nickel
f. penny
g. quarter

MATERIALS

The following lists of materials contains suggestions for visual aids helpful in the mathematics program. It is not exhaustive by any means and the teacher may find other materials to use.

1. Attribute Blocks
2. Balloons
3. Balls: a variety of sizes ranging from jack's to beach
4. Blocks of all shapes and sizes
5. Books (See book list)
6. Boxes of various sizes and shapes
7. Coins
8. Colored chalk
9. Cookie or Donut cutter
10. Crayons
11. Dominoes or Domino Cards
12. Empty cans of various sizes
13. Embroidery Hoop
14. Flannel Board
15. Flannel Board objects: geometric shapes, animals, etc.
16. Geometric shapes and models made from:
    - sand paper
    - construction paper, etc.
    - wire
    - straws
    - string, yarn, or rope
    - styrofoam
    - wood
    - plastic



17. Graduated Shapes
18. Lincoln Logs
19. Magnetic Board
20. Magnetic Board objects
21. Mirror Cards
22. Numeral Cards
23. Oatmeal Boxes
24. Object Lotto
25. Old Magazines
26. Paint Brushes and Paint
27. Pan Balance Scale
28. Paper Clips
29. Paper Sacks and Bags
30. Parquetry Blocks
31. Paste
32. Perception Cards
33. Plain Ring: Hula Hoop if available
34. Puzzles
35. Records of Number Songs
36. Rhythm Instruments
37. Seasonal Materials:

    Indian Corn
    Pumpkins
    Christmas Decorations, etc.

38. Set Materials

    Bottle Caps
    Buttons
    Pegs and Peg Boards
    Beads and Bead Laces
    Macaroni shells
    Beans, Peas
    Small Toys
    Corks
    Spools
    Discs (wood, paper)

37

Tongue Depressors
Popsicle Sticks
Paste Sticks
Sea Shells
Plastic Spoons & Forks
Rocks and Stones
Corn

39. Straws
40. String and yarn of clothesline rope
41. Toys
    Dolls
    Cars
    Dishes
    Plastic Animals
    Stand-up Figures
    Doll Clothes
42. Umbrellas of various sizes
43. Wooden Cubes (One square inch faces)

KINDERGARTEN BOOK LIST
MATHEMATICS

Auerback, Marjorie, Seven Uncles Come to Dinner, Alfred A. Knopf, Inc., 1963. Number concepts.

Banner, Anglea: One, Two Three with Ant and Bee, New York, Franklin Watts, Inc., 1958.

Barr, Catherine: Seven Chicks Missing, Henry Z. Walck, Inc., 1962. 7 - 1, 6 - 1.

Baum, Arline: One Bright Monday Morning, Random House, Inc., 1962. Days of the Week.

Behn, Harry: All Kinds of Time, Harcourt, Brace & World, Inc., 1950, Seasons.

Beim, Jerrold: Country Garage, New York, William Morrow and Co., 1952.

Bianco, Pamela: The Doll in the Window, New York, Henry Z. Walck, Inc., 1953.

Berkley, Ethel S., The Size of It. Eau Claire, Wisconsin. E. M. Hale and Co., 1951.

Bishop, Claire Kutchet, The Five Chinese Brothers. New York, Coward-McCann, 1938.

Bishop, Claire, Twenty-two Bears, The Viking Press, Inc., 1964. Cardinal and Ordinal Numbers.

Borten, Helen. Do You See What I See? New York, Abelard-Schuman, Ltd., 1950.

Brenner, Barbara. The Five Pennies, Alfred A. Knopf, Inc., 1963. Money, Cardinal Numbers

Budney, Blossom. A Cat Can't Count, Lothrop, Lee & Shepard Co., 1962. Counting.

Budney, Blossom. A Kiss is Round, New York, Lothrop, 1954.

Brann, Esther: Five Puppies for Sale, New York. The Macmillan Co., 1948.

Chalmers, Audrey. Hundreds and Hundreds of Pancakes, The Viking Press, Inc., 1942. Size, position, comparison, and measurement.

Colman, Hila. Watch That Watch, William R. Morrow, Inc., 1962. Time.

Corcos, Lucille. Joel Spends His Money. New York, Abelard-Schuman, Inc., 1954.

d'Aulaire, Ingri. The Two Cars. Garden City, New York, Doubleday and Co., Inc., 1955.

d'Aulaire, Ingri, and Edgar. Don't Count Your Chicks, Garden City, New York, Doubleday and Co., Inc. 1943.

Duvoisin, Roger. Two Lonely Ducks, A County Book. New York, Alfred A. Knopf, Inc., 1955.

Elkin, Benjamin: Six Foolish Fishermen, Children's Press, Inc., 1957. Counting.

Emberley, Ed. The Wing on a Flea, Boston, Little, Brown, and Co., 1961.

Everson, Dale. Mrs. Popover Goes to the Zoo, William R. Morrow, Inc., 1963 Counting.

Falconer, Rebecca. Tall-Enough Tommy, Chicago, Children's Press Inc., 1954.

Federico, Hellen, The Golden Happy Books of Numbers, New York. Golden Press, 1963.

Fisher, Margery M. One and One, The Dial Press, Inc., 1963.

Francoise: What Time Is It, Jeanne-Marie? Charles Scribner's Sons, 1963. Time telling.

Friskey, Margaret. Seven Diving Ducks. Philadelphia, David MacKay Co., 1940.

Friskey, Margaret. Chicken Little Count-To-Ten. Chicago, Children's Press, Inc., 1946.

Gag, Wanda. Millions of Cats, Coward-McCann, Inc., 1945. Hundreds, thousands, millions.

Geisel, Theodor Seuss (pseud. Dr. Seuss). The 500 Hats of Bartholomew Cubbins. New York. Vanguard Press. 1938.

Geisel, Theodor Seuss. One Fish, Two Fish, Red Fish, Blue Fish, New York, Random House, 1960.

Grayson, Marion F. Let's Do Fingerplays, Robert B. Luce, Inc., 1962.

Hall, William. The Seven Little Elephants, New York, Thomas Y. Crowell Co., 1947.

Hughes, Peter. The Emperor's Oblong Pancake, Abelard-Schuman Limited, 1962. Shapes.

Ipcar, Dahlov. Brown Cow Farm. A Counting Book. Garden City, New York, Doubleday and Co., 1959.

Jackson, Jathryn. Wheels, New York, Golden Books, Simon and Schuester, 1952.

Jeruchim, Cecile. Hello. Do You Know My Name? G. P. Putnam's Sons, 1963. Shapes.

Kay, Helen. One Mitten Lewis. New York, Lothrop, Lee and Shephert Co. Inc., 1955.

Kepes, Juliet, Two Little Birds, Boston, Houghton Mifflin Co., 1960.

Kessler, Leonard. The Worm, the Bird, and You, Dodd Mead & Co., 1962. Sizes.

Kipling, Rudyard. The Elephants Child, Chicago, Rand McNally, 1955.

Kohn, Bernice. Everything Has a Size, Prentice Hall, Inc., 1964. Sizes

Krasilovsky, Phyllis. The Very Little Boy, Doubleday & Company, Inc., 1953 Sizes

Krasilovsky, Phyllis. The Very Little Girl, Doubleday & Company, Inc., 1953. Ratio and sizes.

Krauss, Ruth. The Growing Story, New York, Harper Brothers, 1947.

Kravetz, Nathan. Two for a Walk, New York, Henry Z. Walck, Inc., 1954.

Krum, Charlotte. The Four Riders. Chicago, Follet Publishing Co. p953,

Langstaff, John. Over in the Meadow. Harcourt, Brace & World, Inc., 1957. Counting

Latham, Jean Lee. The Cuckoo That Couldn't Count, The Macmillan Company.

Lionni, Leo. Inch-by-Inch, Ivan Obolensky, Inc., 1960.

Little Owl Reading Time Series, Holt, Rinehart & Winston, Inc., 1963.

Considine, Kate . . One, Two, Three, Four.
Fehr, Howard F. . Five is 5.
Fehr, Howard F. . This is My Family.
Hall, William . . Captain Murphy's Tugboats.
Heller, Aaron . . Let's Take a Walk.
Otto, Masrgaret . . Three Little Dachshunds.
Quackenbush, Robert . . Poems for Counting.
Sullivan, Joan. . Round Is a Pancake, Shapes
Wing, Henry R. . . Ten Pennies for Candy.
One-to-One Correspondence.
Wing, Henry R. . What is Big?
Wittram, H.R. . . Going Up, Going Down.

McCall, Adeline, Timothy's Tunes. Boston, Boston Music Company, 1948.

Mceod, Emilie. One Snail and Me. Little, Brown and Company, 1961. Counting.

Meeks, Esther. One is the Engine. Chicago, Wilcox and Follett Co., 1952.

Montresor, Beni. House of Flowers, House of Stars, Alfred A. Knopf, Inc., 1962. Shapes.

Moon, Grace, and Carl. One Little Indian. Chicago. Albert Whitman and Co.

Moore, Lillian, Count to Ten. New York, Golden Press Inc., 1957.

Myller, Rolf. How Big Is a Foot? Atheneum Publishers, 1962.

Osswald, Edith, and Reed, Mary M. - The Golden Picture Book of Numbers, New York, Simon and Schuster, 1954.

Paasche, Carol, Count with Me 1-2-3 - New York. Golden Press, Inc., 1962.

Pease, Josephine Van Dolzen. One, Two, Cock-a-Doodle Doo, Chicago. Rand McNally Co., 1950.

Podendorf, Ila. The True Book of Pets. Chicago, Childrens Press, 1954.

Rand, Ann. Little I, Harcourt, Brace & World, Inc., 1962.

Rey, H. A. Feed the Animals, New York, Houghton Mifflin, 1944.

Roberts, Cliff, The Dot, New York. Franklin Watts Inc., 1960.

Schatz, Letta. When Will My Birthday Be? McGraw-Hill Book Company, 1962. Calendar

Schlein, Miriam. It's About Time, William R. Scott, inc., 1955. Time: seconds, minutes, hours, days, seasons, etc.

Schlein, Miriam. Fast is Not a Ladybug. New York, William R. Scott, Inc., 1953.

Schelin, Miriam. Heavy Is a Hippopotamus. New York. William R. Scott Inc., 1953.

Schelin, Miriam. Shapes. New York. William R. Scott, Inc., 1952.

Schlein, Miriam. The Four Little Foxes. New York, William R. Scott, Inc., 1953.

Schneider, Herman and Nina. How Big Is Big. New York, William R. Scott, Inc., 1946.

Seignbosc, Francoise. Jeanne Marie Counts Her Sheep. New York. Charles Scribner's Sons, 1951.

Seuss, Dr. Dr. McEligot's Pool, Random House, Inc., 1947. Number, comparison, shape, size, length, and height.

Seuss, Dr. One Fish, Two Fish, Red Fish, Blue Fish, Random House, Inc., 1960.

Shapp, Martha. Let's Find Out What's Light and What's Heavy, Franklin Watts, Inc., 1961.

Sherman, Diane. My Counting Book, Rand McNally & Co., 1963.

Skarr, Grace. All About Dogs, Dogs, Dogs. Eau Claire, Wisconsin. E. M. Hale and Co., 1954.

Slobodkin, Louis. One Is Good but Two Are Better. New York, Vanguard Press, Inc., 1956.

Slobodkin, Louis. Millions and Millions, Vanguard Press, Inc., 1955.

Smock, Nell S. Little and Big. Nashville, Tennessee. Abingdon Cokesbury Press, 1947.

Thaler, Mike. Penny Pencil, Harper & Row, Publishers, 1962.

True, Louise. Number Men. Chicago, Children's Press Inc., 1948.

Tudor, Tasha. 1 is One. New York, Henry Z. Walck, Inc., 1956.

Tudor, Tasha. Around the Year. Henry Z. Walck, Inc., 1957.

Ungerer, Tomi. One, Two, Where's My Shoe? Harper & Row, Publishers, 1964.

Ungerer, Tomi. Snail, Where Are You? Harper & Row, Publishers, 1962. Form and design.

Watson, Nancy. What Is One. New York, Alfred A. Knopf. 1954.

Wolff, Janett and Owett, Bernard, Let's Imagine Thinking.

Wondriska, William. 1, 2, 3, a Book to See, Pantheon Books, Inc., 1959.

Yolen, Jane H. See This Little Line? David McKay Co., Inc., 1963.

Zinzer, Feenie and Galdone, Paul. Counting Carnival, New York. Coward-McCann, Inc., 1962.

SCIENCE

Today's young children are living in a science-conscious world. Kindergarten science experiences should grow from the child's needs to build his background of ideas, knowledge, and concepts so that he may better understand his environment Science aims for kindergarten include:

1. Helping children to become aware of both natural and applied science by encouraging intelligent observation.
2. Providing opportunities to learn the answers to questions through group and individual experimentation and research; helping children seeking answers in an orderly way as they make their first application of scientific method to problem solving.
3. Building upon knowledge that children bring to school by introducing broader, more detailed, and more complex science experiences as children are ready for them.
4. Visiting persons and places in the community and using books and audio-visual methods to stimulate interest in nature and science, to provide information, and to correct misinformation.
5. Stimulating the children's curiosity about science and the work of scientists through a variety of informal, participation-type experiences leading to discovery.

How Children Acquire Science Concepts

Science concepts seem to develop early and easily in young children from their own experiences. Most pupils bring to kindergarten a few ideas about science that have developed from previous experiences in the home and neighborhood. Some of these ideas are accurate and some are erroneous. The kindergarten child who comes from a home where his parents have taken the time to observe and discuss things with him will have a better

conceptual background than one who has not been encouraged to observe and ask questions.

In some families, members may enjoy walking together in the woods, riding on the prairie, or exploring the seashore. They examine the wonders of nature as they go. Some children may own picture books about nature, machines, or experiments. Others may be in charge of the family pet, may collect rocks or shells, or may plant gardens of their own. Children from mobile families may have had real experiences in comparing regional differences in weather, terrain and vegetation. However, there will also be some children in the group who have had very few science experiences.

One might conclude from listening to them that today's kindergarten children know more about science than their parents did at the same age. Because they live in a science-oriented world, they are more likely to be familiar with certain scientific facts and projects; however, they probably have had less direct experience with nature than their parents had as children. Children of the older generation spent many hours outdoors while children of today spend much time in front of the television set watching rocket firings, movies of undersea life, or Mr. Wizard's experiments. Visits to zoos and natural-history museums

by the present generation provide experiences with small wild animals that their grandfathers probably encountered in woods and meadows. Magazines and newspapers also present a constant stream of scientific facts and fiction. The kindergarten teacher should reinforce concepts that are within the comprehension of this age group. He must also help to correct erroneous ideas. When a content area in which a child is interested is obviously too difficult for him to understand, the teacher should not hesitate to say, "You will understand this better when you are older."

Are kindergarten children able to remember new concepts to which they may be exposed? All will learn, but not necessarily what we think they are learning. Experiences involving experimenting, observing, exploring, solving problems, discussing, and generalizing help children develop conceptual thinking. A teacher aids conceptual learning by helping children to look for relationships: causes and effects, similarities and differences. A series of guiding questions can lead the children step-by-step in the direction of observing an effect, solving a problem, or thinking of another possibility. Sequences of activities should be timed to permit previous ideas and concepts to jell before more difficult ones are heaped upon them. Situations can be planned

to require children to use what they know in reaching a new conclusion. All the conditions conducive to good learning apply to science. [15]

Children in kindergarten will derive much benefit from experiences which enable them to acquire certain basic skills and competencies essential to the learning of science. These competencies are listed as:

Observation
Classification
Recognition and use of space/time relationships
Recognition and use of numbers and number relations
Measurement
Communication
Inference
Prediction [16]

SUGGESTIONS FOR PARTICULAR CONTENT AREAS

SOCIAL STUDIES

Since social behavior and social thinking have their roots in infancy it is practical and logical to consider the social studies as an integral part of any kindergarten program. The social studies can make a major contribution toward satisfying the personal needs of the child in helping him to explore and discover, imagine and imitate, participate and associate, and manipulate and construct.

The curious spirit of the kindergarten child must be maintained by allowing him to share in the responsibility of his own learning. He is primarily interested in the here and now and although he may not read, he can interpret through the use of his senses. Thus, if teachers use an inquiry technique at the kindergarten level in social studies they initiate the development of the process skills and set the stage for conceptual learning.

Scope and sequences vary from school district to school district. Therefore, it is necessary to select or develop a flexible framework on which to build a sound social studies program. A Conceptual Framework for the Social Studies in the Wisconsin Schools, published by the Wisconsin Department of Public Instruction, has made a vital contribution to the improvement of social studies curriculum throughout the nation. The developmental variants which are offered as examples can do much to assist teachers in the development of curriculum at the local level.

On the following pages are the Developmental Variants for the Kindergarten as listed in the Wisconsin guide.

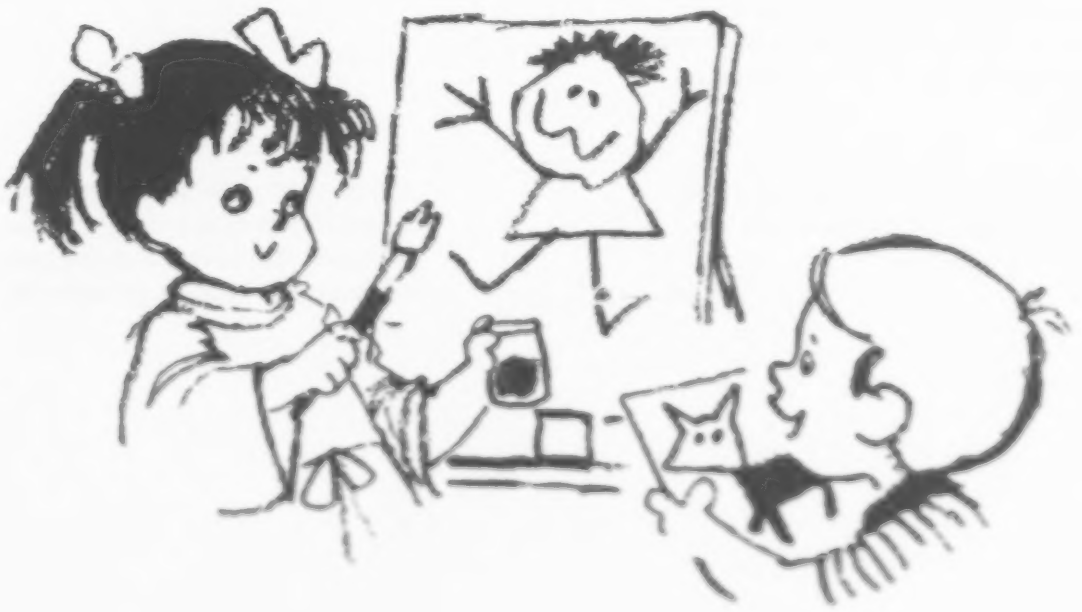
HISTORY	ANTHROPOLOGY-SOCIOLOGY	POLITICAL SCIENCE
School rules and routines differ from (but are related to) those of the family.	People in the same family usually have similar characteristics.	People make rules in their home, school, and community for their safety and health. Punishment follows when rules or laws are broken.
Holidays commemorate our historical heritage.	The family is the basic social group. In general, it provides for our basic needs and desires - food, clothing, shelter, security and affection.	Authority in the home resides in the parents; in the school, authority is the province of the teacher.
Change may help some people and hurt others.	Families and schools provide the opportunities for young people to learn.	A democratic society, or group, is one in which opinions are freely expressed and where the rights of all are respected.
What people do and say affects others.	As people learn various skills, they gain satisfaction and enjoyment.	Being a good citizen begins at home and at school. It involves reaching agreement in making rules and assuming responsibility for one's own action.
As people gain in their knowledge of the world they understand why the world is different from what it was when parents were children.	P e o p l e continually learn new things as they grow older.	Home and school share responsibility to encourage behavior and attitudes which are favorable toward the community.
Games are more enjoyable when players play fairly and take turns.	Families and schools need rules and regulations for the good of all.	

ECONOMICS	GEOGRAPHY
All members of a family are consumers; a limited number are the producers of goods and services.	Home and school are located on earth. Each is located a particular distance and in a particular direction from the other.
The performing of special assignments (division of labor) in a cooperative manner on the part of everyone in the household increases the efficiency of the home.	A diagram of one's home or school is a type of map.
The productive members of the family receive money for their work. With this they buy goods and services they need but do not produce.	Each home is a unique unit. A family living in a home may be different in many ways from those living in other homes.
Family income spent for various needs influences decisions as to what goods and services are to be produced. If money is spent for a vacation, there may be none left for a new television set.	School is linked to the homes from which the pupils come.
Pure food and drug laws have been passed to protect the family's well being.	Earth materials have been used to build our home and schools. Different materials may be used to build new homes or schools.

ART

The natural interests of the five-year-old are his home and family life. For this reason, we should try to relate his art activities to the family. Since a five-year-old is beginning to take on small responsibilities, this is a good time to stress good work habits. He will soon learn to wash his paint brush when changing colors, to clean up the work area, and to take pride in his work by seeing that it is put in a safe place.He will be anxious to please, and will replace anything borrowed. His tools should be large and easy for him to handle. This includes large brushes and paper.

The working area should be confined with large low tables, easels and space on the floor if needed. A small child should not be expected to work in too small a place or with small pieces of paper. Any and every type of small and delicate work puts a strain on the muscles and eyes of a child and should be avoided. If this type of tedious work is pursued, the child will soon become disinterested, and art activities will become drudgery instead of inspiration.



SUGGESTIONS FOR PARTICULAR CONTENT AREAS

When a new art medium is introduced,the five-year-old needs time to experiment with it, time to feel it, play with it, find out what he can do with it -- perhaps even taste it. Color choices are largely accidental: Often he uses only one color or two or three of his favorite colors. At first he may still be scribbling and have little to tell about his work. However, this will soon pass, and he will have much to say about his work. Next he goes through successive stages of symbolism in his work, first using forms he names but are meaningless to others. Following this stage, he devises symbols which can be identified. His composition will be fragmentary showing no respect for gravity, but he is satisfied. Later his work will mature and need no explanation, even though he will always be handy with one. From this point on, there is a steady growth in creative power. All children pass through these stages of development, but the periods are not the same for all children. Some linger in one stage for quite some time, only to speed through others. A teacher should not try to interfere with the child's pattern of growth or try to hurry his development.[18]

Some materials essential to the kindergarten art program are:

2 double adjustable painting easels
48 square-cut easel brushes of good quality
18" x 24" newsprint
Manila paper
Finger paint paper
Colored construction paper
Finger paint or materials to make finger paint
Large wax molded crayons in the eight basic colors without paper wrapper
Small unpointed scissors (Some left-handed)
Tempera paint
Large colored chalk
Colored tissue paper
Collage materials (collected)
Paste
White bottled glue
Clay
Smocks

FORMULAS

Finger Paint

1 and one-half cups laundry starch
1 qt. boiling water
1 and one-half cups soap flakes
one-half cup talc (optional)
one-half tsp. poster paint.

Mix starch with cold water to form creamy paste. Add boiling water and cook until mixture becomes transparent or glassy looking. Stir constantly. Add talc, if desired, to make a smoother paint. Let mixture cool a bit; then add soap flakes, stirring until evenly distributed. Let cool and pour into jars with screw tops. Stir into each jar one-half tbsp. poster powder or easel paint of desired color.

Finger paint may also be made by adding soap flakes to concentrated liquid starch. Color may be added directly to the starch or by shaking dry tempera paint on the paper when starch has been spread.

Play Dough

2 cups flour
1 cup salt
2 tbsp. olive oil
food coloring

Add water slowly to make a pliable mixture. Knead above ingredients and place in plastic bag.

SUGGESTIONS FOR PARTICULAR CONTENT AREAS

MUSIC

A good kindergarten should contain a well-balanced program of musical activities which includes singing and rhythms as well as a wide range of creative activities and experiences in listening and responding to many different kinds of music.

Children like to sing, make up songs, listen to songs and sounds, play instruments and move to music and rhythms.

The use of an autoharp should be encouraged in the kindergarten. An outline of various kinds of rhythmic activities for children is presented here:

I. Responding to natural or fundamental rhythms.
   A. Single rhythms
      1. Clapping
      2. Rocking & Swaying
      3. Swinging
      4. Dancing
      5. Walking
      6. Walking on tiptoe
      7. Sliding
      8. Running & trotting
      9. Jumping
      10. Bouncing
      11. Galloping
      12. Hopping
      13. Marching
      14. Skipping
   B. Combinations of rhythms.
      1. Combinations arising from free interpretations.
      2. Songs providing a variety of rhythmic responses.
      3. Dramatizations
      4. Music containing changes of rhythm pattern.
      5. Development of a variety of rythms.
      6. Combinations played on two or more accompanying instruments.

II. Identification or impersonation in rhythmic expression.
   A. Interpretive play.
      1. Nature
         a. Wind
         b. Waves
         c. Trees
         d. Animals

2. Transportation

B. Action Songs

III. Rhythmic Activities evoking from dramatic play.

IV. Musical dramatization

V. Folk games and dances.

A. Singing games

B. Dances

VI. Learning about rhythmic notations.

A. Beats and patterns

1. Fundamental beats

2. Rhythmic patterns [19]

SUGGESTIONS FOR PARTICULAR CONTENT AREAS

PHYSICAL EDUCATION

Physical development is happening throughout the kindergarten day. Fundamental rhythmic responses include walking, running, skipping, hopping, jumping, galloping, tip toeing, sliding, clapping, swaying, and animal walking.

Conditions contributing to a sound program of physical education for kindergarten children include allocation of large, safe, outdoor and indoor play areas where all children may play simultaneously without crowding. It should be equipped with sturdy play apparatus that will help provide vigorous exercise of all parts of the children's bodies, and in such quantity as to enable every child to use some of the equipment at each play time. Adequate supervision must be provided at all times. Aims for the physical education program will include:

1. Learning the safe use of apparatus and play area.
2. Experimenting in imaginative use of equipment.
3. Participating in physically active games, and rhythmic activities.
4. Enjoying vigorous physical activity as a part of each day's program.
5. Being guided in developing progressive skill in use and control of the body. [20]

For additional activities please see the section on Music.

AUDIO-VISUAL EDUCATION

Audio-Visual methods have been employed in kindergarten for many years, although the term "Audio-Visual" has not been used to describe these activities. In the discussion of the role of audio-visual in the kindergarten it is more functional to use a broad definition of audio-visual, extending its meaning beyond the restricted inference of sound and sight. The history of early childhood education is filled with the efforts of Pestalozzi, Rousseau, and Froebel to provide opportunities for learning through a wide variety of experiences. Audio-visual's "practical goal is the efficient utilization of every method and medium of communication which can contribute to the development of the learner's full potential. [21] We should take advantage of devices and skills of the technological age, but remain mindful of activities in our daily living which provide learning experiences. For example, children can observe the falling rain; the feeling of rain upon their faces; the sound as it hits their classroom window; the effects of rain on a green plant. These experiences can be supplemented by pictures, dramatization, art, stories and songs and even educational film or television.

Edgar Dale, in his text Audio-Visual Methods in Teaching, set up what he calls the "Cone of Experience." [22] (on page 60) As he explains, "It is merely a visual aid in explaining the interrelationships of the various types of audio-visual materials, as well as their individual 'positions' in the learning process." Each division on the cone represents a stage between the two extremes of direct experience and pure abstraction.

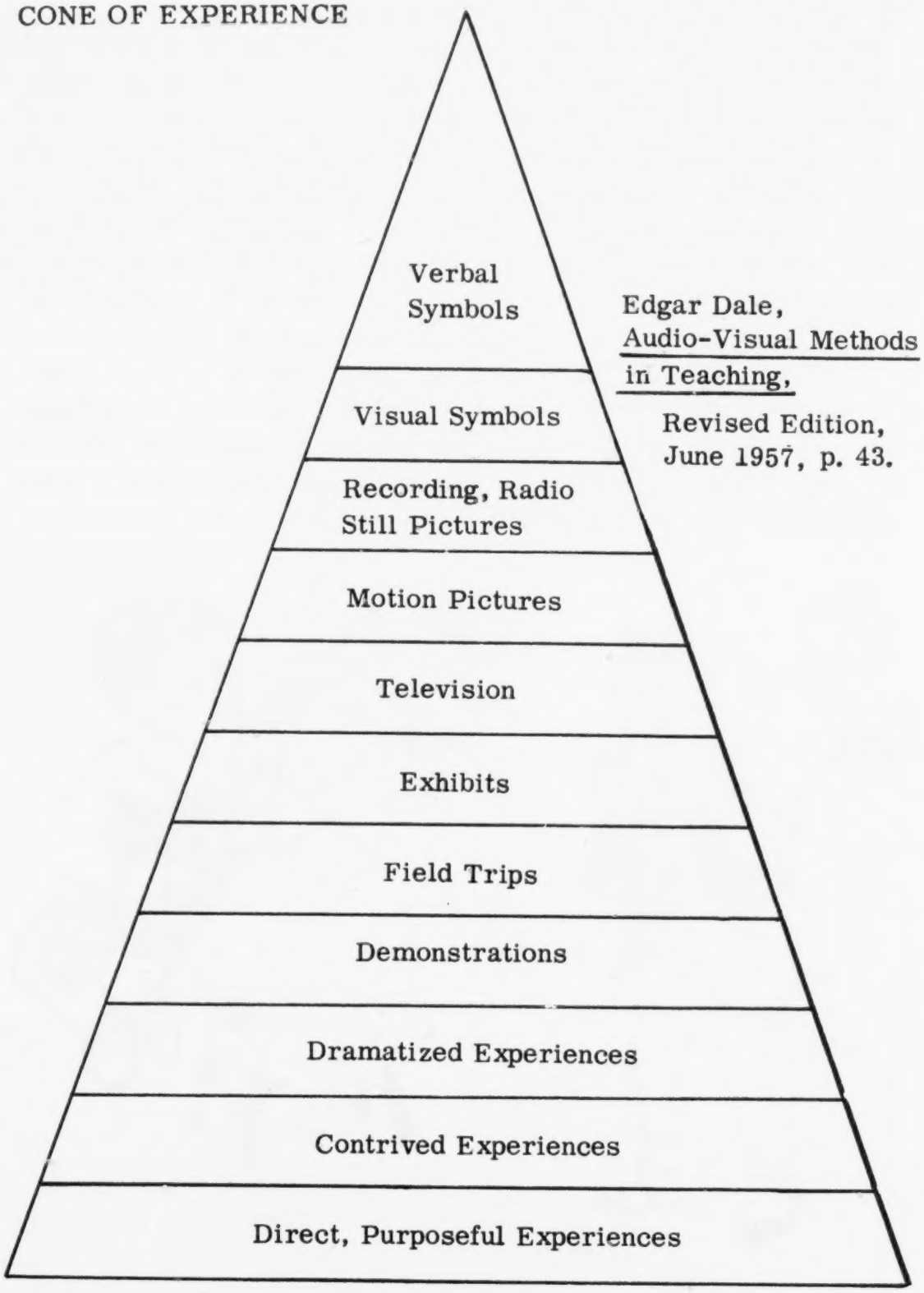
The base of the cone represents direct reality or first hand experience. Direct, purposeful experience, contrived experiences, and dramatized experiences from the ascending levels from the base of the cone. It should be remembered that by traveling up the cone there is decreasing directness and increasing abstractness which does not necessarily mean increasing difficulty. All words used by children are abstractions, but

the words children use are not necessarily difficult.

In the middle of the cone, the experiences are less direct and learning must result from observing rather than doing. Those experiences at the top of the cone are increasingly abstract and learning results from interpretation of visual and verbal symbols. Visual symbols are pictures representing the "real" object. In essence they are a form of visual language. On the other hand, verbal symbols such as words, do not look like the object or condition they represent. They are the most abstract, yet the most common, form of human communications.

It may seem that this discussion has strayed from the topic yet Dale's "Cone of Experience" does provide a worthwhile framework. The "Cone" can be conveniently subdivided into experiences involving, doing, observing, and symbolizing. These experiences can be translated into activities in the classroom.

CONE OF EXPERIENCE



Edgar Dale, Audio-Visual Methods in Teaching, Revised Edition, June 1957, p. 43.

SUGGESTIONS FOR PARTICULAR CONTENT AREAS

The following are specific examples of possible kindergarten activities relating to the "Cone of Experience".

Specific Experiences Involving Doing

Direct Experiences - Planting a garden

Contrived Experiences - Building with blocks a city, farm, or airport

Dramatic Participation - Playing teacher, doctor, nurse, etc.

Specific Experiences Involving Observing

Demonstrations - Observing a demonstration of how the fire extinguisher works.

Field Trips - Going out into the neighborhood to see how a steam shovel works.'

Exhibits - Having a place for collections of such things as birds' nests, cocoons, and seeds.

Motion Pictures - Watching pictures showing the wonders of nature.

Radio and Television - Tuning in on educational or documentary programs.

Recording - Listening to music.

Still Pictures - Looking at posted pictures, photographs and paintings.

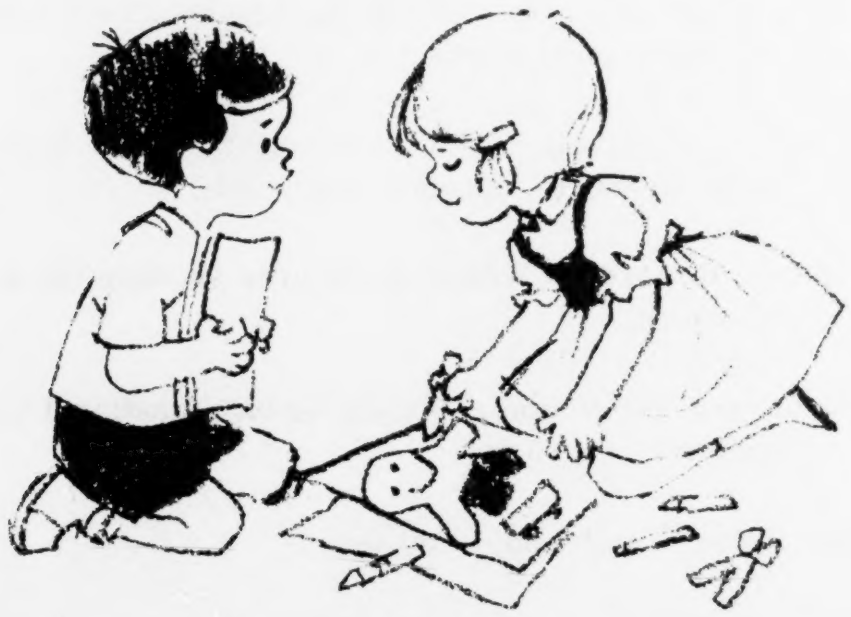
Visual Symbols - Picking out specific buildings or streets on a pictorial map.

23

Verbal Symbols - Reporting an experience to the group.

Little if any attention has been given to the specific utilization of audio-visual equipment or materials in this discussion. Many words could be written on this topic, but it is suggested that teachers work closely with the school district media supervisor or the State Audio-Visual Supervisor.

A few hints might be helpful. All audio-visual devices and materials have their own unique capabilities and limitations. For example, if motion is an important factor in giving meaning to the learning activity, than 8mm or 16mm motion pictures have a distinct advantage over 35mm slides. Whenever possible, use the audio-visual method which best relates to your instructional objective.



SOURCES OF INFORMATION

Association for Childhood Education International
3615 Wisconsin Avenue, N. W.
Washington, D. C. 20016

Child Study Association of America
9 East 89th Street
New York, New York 10028

Department of Elementary-Kindergarten-Nursery Education
National Education Association
1201 Sixteenth Street, N. W.
Washington, D. C. 20036

National Association for the Education of Young Children
1834 Connecticut Avenue
Washington, D. C. 20009

Children's Bureau
U. S. Department of Labor
Washington, D. C. 20210

Office of Economic Opportunity
Washington, D. C. 20506

Superintendent of Documents
U. S. Department of Health, Education and Welfare
Washington, D. C. 20402

Office of Education
U. S. Department of Health, Education and Welfare
Washington, D. C. 20202

Eric Clearinghouse in Early Childhood Education
University of Illinois
805 West Pennsylvania Avenue
Urbana, Illinois 61801

FOOTNOTES

1 Iowa State Department of Public Instruction, Kindergarten Handbook (1966) (266c-28c).

2 Kenneth D. Wann, Miriam Selchen Dorn, and Elizabeth Ann Liddle, Fostering Intellectual Development in Young Children (New York Teachers College Press, 1962).

3 Robert F. White, "Motivation Reconsidered: The Concept of Competence," Psychological Review, 1959 - 66 (5: 297-333).

4 Illinois Curriculum Program, "School Begins With Kindergarten," The Subject Field Series, Bulletin No. c-One, Sept, 1959 pp 71-72.

5 Neith Headley, The Kindergarten: Its Place in Education (New York - The Center for Applied Research, Inc., 1965).

6 Alice Miel, "Sequences in Learning, Fact or Fiction," (NEA, Elementary Instructional Service).

7 Bernice Fleiss, Young Children, "The Continuity of Education from Kindergarten to Primary" (Nov. 1966) pp 78-82.

8 Helen F. Robison and Bernard Spodek, New Direction in the
Kindergarten (New York - Teachers College Press, 1965)

9 Helen Robison and Bernard Spodek, New Direction in the Kindergarten (New York - Teachers College Press, 1965) pp. 170.

10 State Department of Education, Tallahassee. A Guide: Early Childhood Education in Florida Schools. 1969.

11 Neith Headley, "To Write or Not to Write," Childhood Education, XXVII (February, 1961), 260-263.

12 Milwaukee Public School, "A Reading Readiness Program"

13 "Bibliography of Books for Children," (Association of Childhood Education International, 1968) pp. 18-25.

[14] "Children's Books for $1.50 or Less," (Association of Childhood Education International, 1969).

[15] Clarice Wills and Lucile Lindberg, Kindergarten for Today's Children (Chicago - Follett Publishing Co. 1967).

[16] "American Association for the Advancement of Science," Science Education News, (Washington, D. C. - The Association, November, 1963) pp. 5.

[17] Wisconsin Department of Public Instruction, A Conceptual Framework for the Social Studies in the Wisconsin Schools 1967.

[18] Daviess County Board of Education, Art . . . For Every Child, (Owensboro, Kentucky).

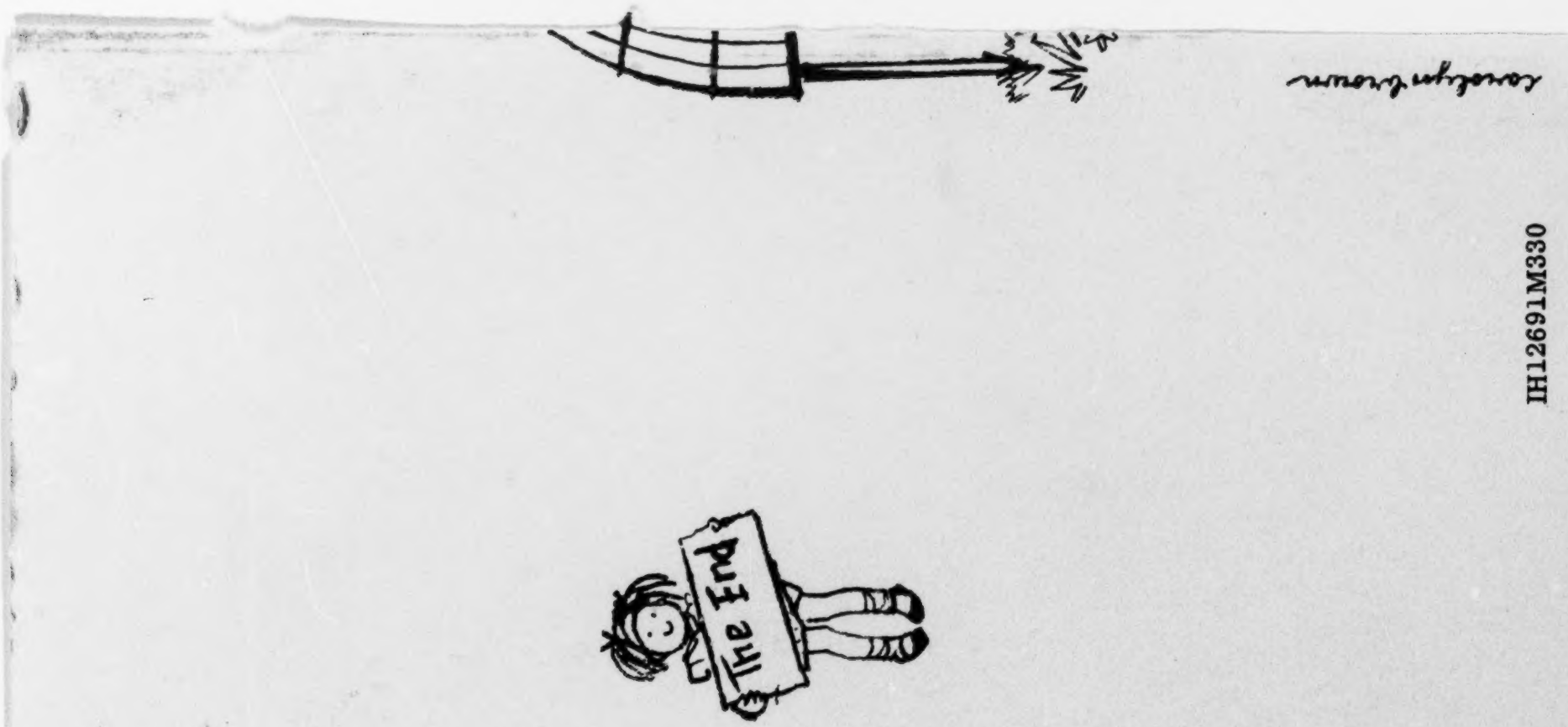
[19] Education In Early Childhood - California State Department of Education - pp. 379-383.

[20] Clarice Wills and Lucile Lindberg, Kindergarten for Today's Children (Chicago: Follett Publishing Co.) pp. 268.

[21] Audio-Visual Communication Review - Jan.-Feb. 1963.

[22] Audio-Visual Methods in Teaching - Edgar Dale (Revised Edition, 1957).

[23] Foster and Headley, Education in the Kindergarten (1966) pp. 424-427.



IH12691M330